

SAP Business Intelligence Reporting

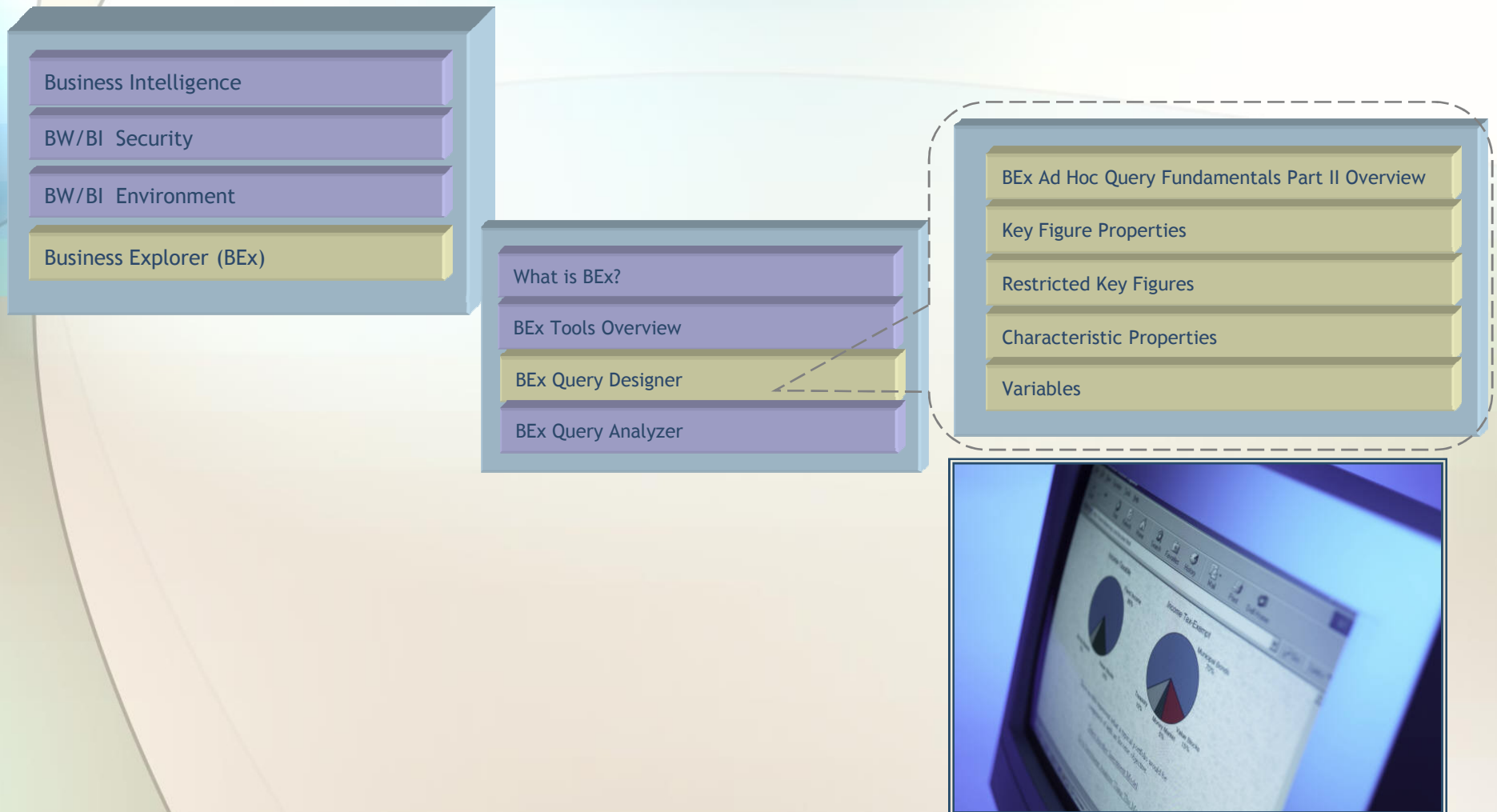
BEx Ad Hoc Query Fundamentals - Part II

Washington State HRMS Business Intelligence (BW/BI)
BW/BI Power User Workshop Materials

General Topics - BW/BI Power Users

BEx Ad Hoc Query Fundamentals - Part II

The following BEx Ad Hoc Query Fundamentals - Part II section provides an overview of BEx Ad Hoc Query Fundamentals and builds on the key terms and concepts covered in BEx Query Fundamentals - Part I.



BEx Ad Hoc Query Fundamentals - Part II Overview

BEx Ad Hoc Query Fundamentals - Part II contains the following key terms and concepts:

- Key Figure Properties
- Restricted Key Figures
- Characteristic Properties
- Variables

The screenshot shows the BEx Query Designer interface with the following components and annotations:

- InfoProvider:** A tree view on the left showing the hierarchy of data sources, including Key Figures and Dimensions.
- Filter:** A section for defining filter values, including Characteristic Restrictions and Default Values.
- Rows/Columns:** A section for defining the structure of the query, including Free Characteristics and Columns.
- Properties:** A panel on the right showing the properties of the selected key figure, including its description and various tabs (General, Aggregation, Display, Advanced).

Annotations with red arrows point to specific elements:

- Variable:** Points to the 'Ethnic Origin [DETHN_ORIG]' characteristic in the Filter section.
- Key Figure:** Points to the 'Number of Female Employees' key figure in the Columns section.
- Restricted Key Figure:** Points to the 'Number of Female Employees' key figure in the Rows section.
- Characteristics:** Points to the 'Calendar Year/Month [OCALMO]', 'Gender [OGENDER]', and 'Military Status [OMIL_STATUS]' characteristics in the Rows section.

The interface also includes a 'Preview' section at the bottom right, showing a table of data results.

BEx Ad Hoc Query Fundamentals - Part II Overview

BEx Ad Hoc Query Fundamentals - Part II contains the following key terms and concepts:

- Key Figure Properties
- **Key Figure Properties** are settings that format the key figure values when they are displayed in the ad hoc query results.

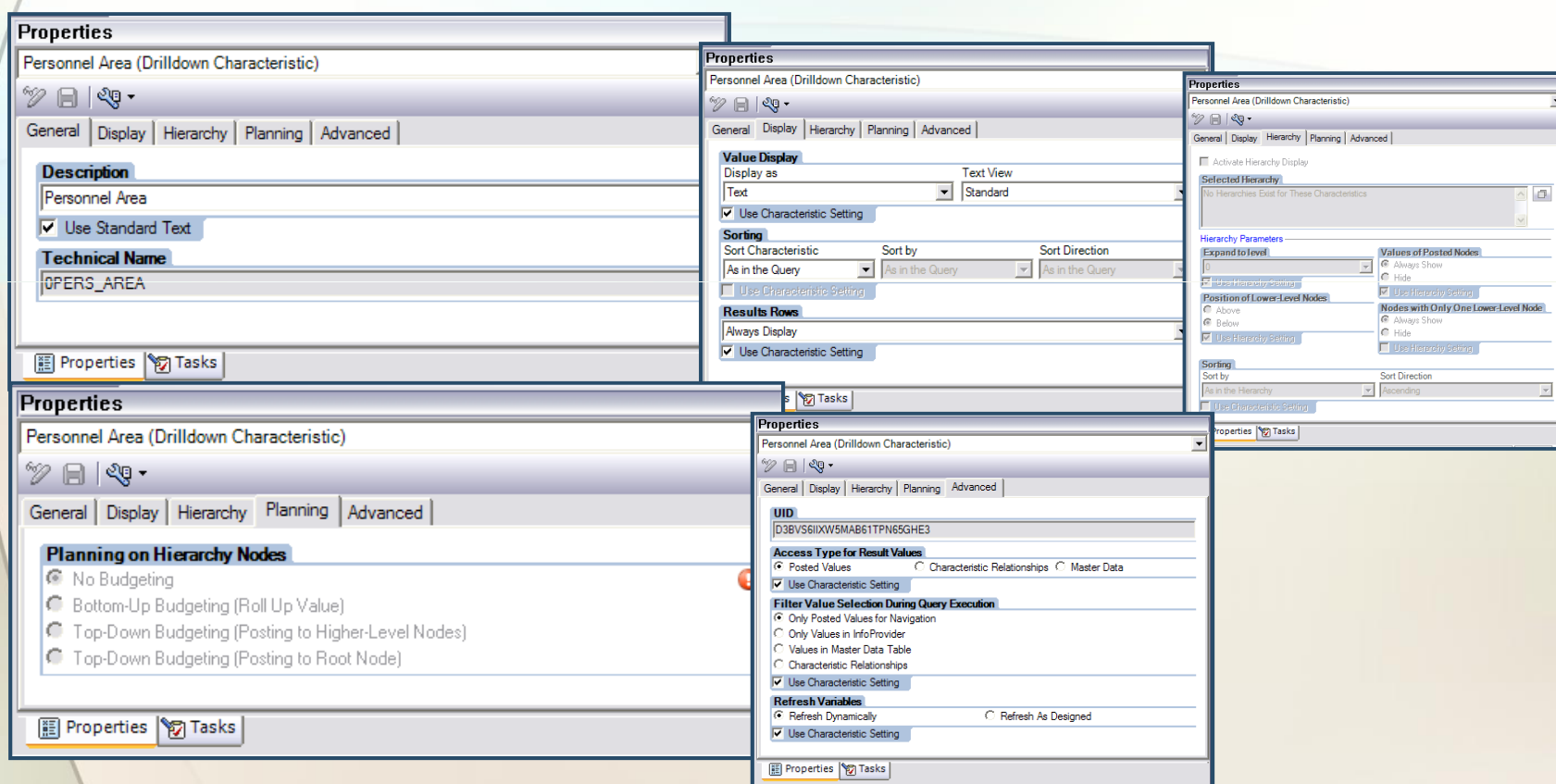
The collage displays six screenshots of the 'Properties' dialog box for a key figure named 'Total All Employees (Selection)'. Each screenshot shows a different tab with its specific settings:

- General Tab:** Shows the 'Description' field with 'Total All Employees' and the 'Technical Name' field. It includes a 'Use Standard Text' checkbox and an 'Edit...' button.
- Aggregation Tab:** Shows the 'Exception Aggregation' section with 'Use Standard Aggregation' selected and a 'Ref. Characteristic' field.
- Display Tab:** Shows the 'Hide' section with 'Always Hide' selected, the 'Highlight' section with 'Normal Display' selected, the 'Number of Decimal Places' set to 0, and the 'Sign Change' section with 'Keep +/- Sign' selected.
- Advanced Tab:** Shows the 'Currency Translation' section with 'Cannot Determine Default Value' selected, the 'Unit Conversion' section with 'Cannot Determine Default Value' selected, and the 'Use Precalculated Value' checkbox.
- Conversions Tab:** Shows the 'Change Data' section with 'Data cannot be changed' selected, and the 'Planning on Totals' section with 'No Disaggregation' selected.
- Calculations Tab:** Shows the 'Local Calculations' section with 'Calculate Results As...' set to '(Nothing Defined)', the 'Calculate Single Values As...' set to '(Nothing Defined)', and the 'Calculation Direction' set to 'Use Default Direction'.

BEx Ad Hoc Query Fundamentals - Part II Overview

BEx Ad Hoc Query Fundamentals - Part II contains the following key terms and concepts:

- Characteristic Properties
- **Characteristic Properties** format the Characteristics when they are displayed in the ad hoc query results.



Restricted Key Figures

Restricted Key Figures are Key Figures that are filtered by one or more Characteristics. For example, the Number of Employees Key Figure can be restricted by the Gender Characteristic to include Female employees only.

Restricted Key Figures are different than Filters:

- **Restricted Key Figures restrict for the Key Figure value only**
In the sample below, the “Number of Female Employees” Restricted Key Figure will display the number of female employees by Personnel Area and Gender.
- **Filters restrict for the entire query**
In the sample below, the “Calendar Year/Month” Filter will display the number of Employees and Number of Female Employees by Personnel Area and Gender as of the date input by the user. If the user selects 7/2005 as the Calendar Year/Month value, the query results will be filtered to 7/2005.

The screenshot shows the BEx Query Designer interface with the following components:

- InfoProvider:** Headcount and Personnel Ac.
- Filter:** Calendar Year/Month (with a red arrow pointing to it from a callout box labeled "Calendar Year/Month Filter").
- Default Values:** Personnel Area, Gender.
- Rows/Columns:** Free Characteristics: Ethnic Origin.
- Columns:** Key Figures: Number of Employees, Number of Female Employees (with a red arrow pointing to it from a callout box labeled "Number of Female Employees Restricted Key Figure").
- Rows:** Personnel Area, Gender.
- Preview:** A table showing the results of the query.

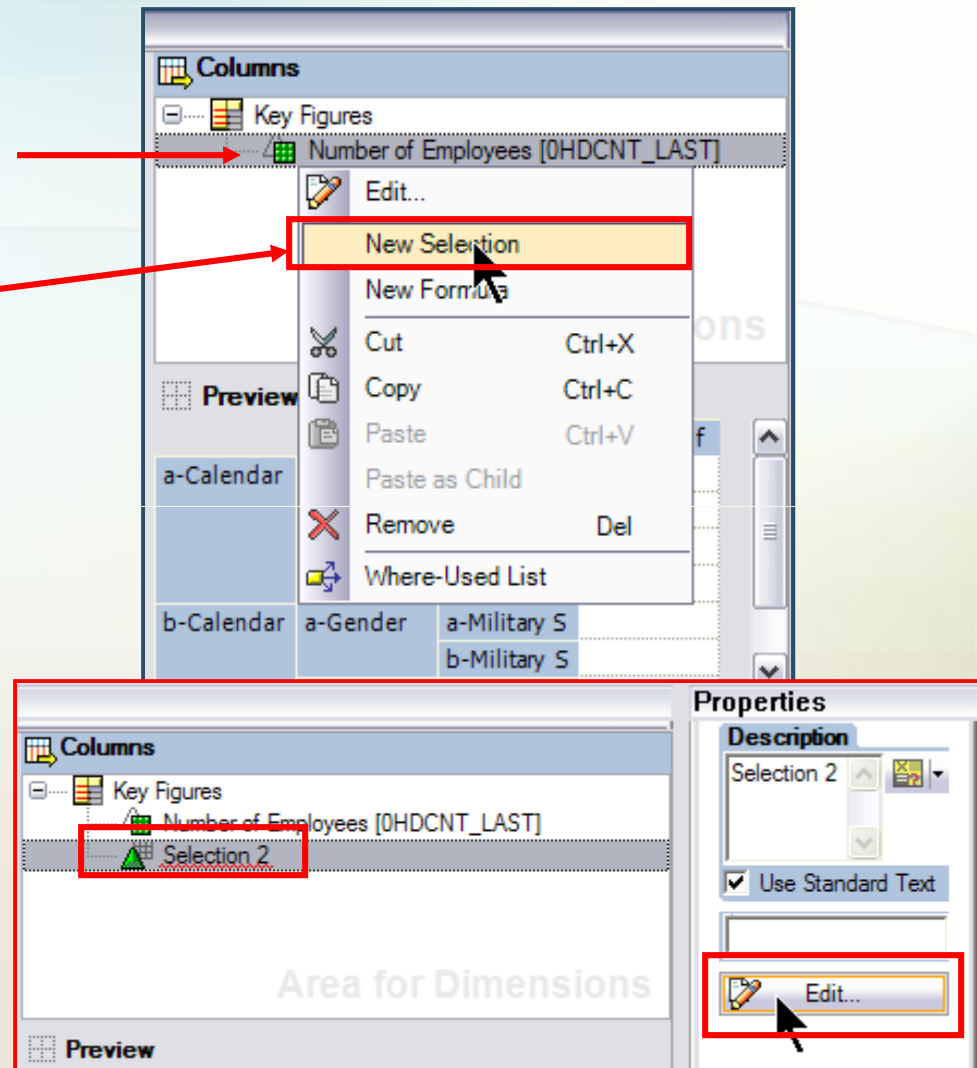
| | | Number of | Number of |
|------------|----------|-----------|-----------|
| a-Personne | a-Gender | | |
| b-Personne | b-Gender | | |
| a-Personne | a-Gender | | |
| b-Personne | b-Gender | | |

Continued...

Restricted Key Figures, Cont...

The example below shows how to create a Restricted Key Figure that will display the number of female employees only:

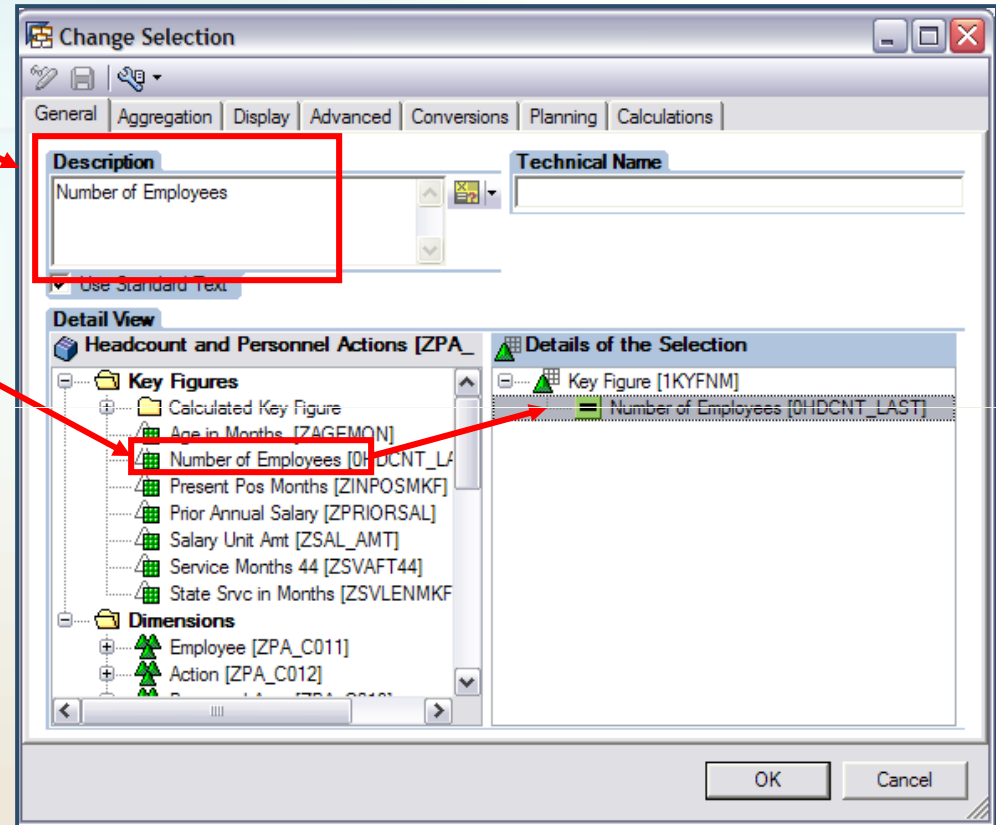
1. Drag&Drop the Number of Employees Key Figure to the Columns section of the query.
2. Right mouse-click the Number of Employees Key Figures in the Columns section and select New Selection.
3. Highlight the "Selection" that has been added under the Key Figures heading. In the Properties section, click "Edit"



Restricted Key Figures, Cont...

Result: The New Selection screen will open to assign the restricted key figure.

3. Enter the name of the Restricted Key Figure (Number of Female Employees) in the Description text box of the New Selection screen.
4. Drag&Drop the Number of Employees Key Figure from the Key Figures folder to the Description section of the query.

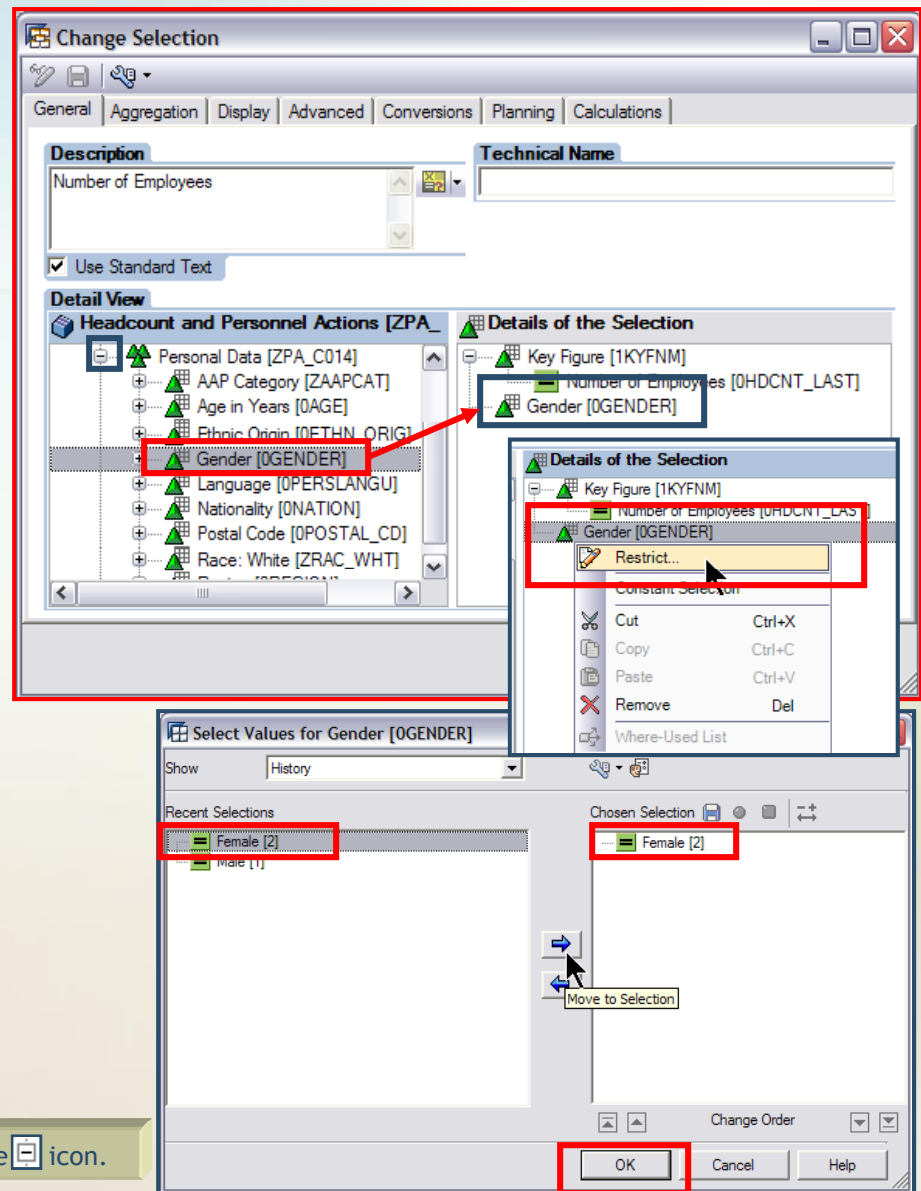


Restricted Key Figures, Cont...

5. *Expand the Personal Data Dimension.
6. Drag&Drop the Gender characteristic to the Description column.
7. Right mouse-click the Gender Characteristic and select Restrict from the Context Menu.

Result: The Selection for Gender screen will display.

8. Drag&Drop "Female" from the Description column to the Selection column of the Selection for Gender screen.
9. Click OK.



Continued...



*To Expand an item, click the icon. To Collapse an item, click the icon.

Restricted Key Figures, Cont...

Result: The “Female” value of the Gender Characteristic has been added to the Key Figure restriction. This will restrict the number of employees for the Number of Female Employees Key Figure to female employees only.

- Click OK to exit the New Selection screen.

Result: A Restricted Key Figure has been created that restricts the number of employees to females employees only.

The image displays two screenshots from the SAP BEx Query Designer interface.

The top screenshot shows the 'Change Selection' dialog box. The 'Description' field contains 'Number of Employees'. The 'Technical Name' field is empty. The 'Use Standard Text' checkbox is checked. In the 'Detail View', the 'Headcount and Personnel Actions [ZPA_...]' tree is expanded, showing various characteristics. The 'Details of the Selection' pane shows the 'Key Figure [1KYFNM]' selected, with the restriction 'Gender [0GENDER]' and its value 'Female [2]' highlighted by a red box. The 'OK' button is also highlighted by a red box.

The bottom screenshot shows the 'BEx Query Designer' main window. The 'InfoProvider' tree on the left shows the 'Headcount and Personnel Actions [ZPA_...]' tree expanded. The 'Rows/Columns' pane shows the 'Free Characteristics' list with 'Ethnic Origin [0ETHN_ORIG]' selected. The 'Columns' pane shows the 'Key Figures' list with 'Number of Employees [0HDCNT_LAST]' and 'Number of Female Employees' highlighted by a red box. The 'Preview' pane shows a table with columns 'a-Calendar', 'a-Gender', 'a-Military S', 'b-Military S', 'b-Gender', 'a-Military S', 'b-Military S', and 'b-Military S'.

Characteristic Properties

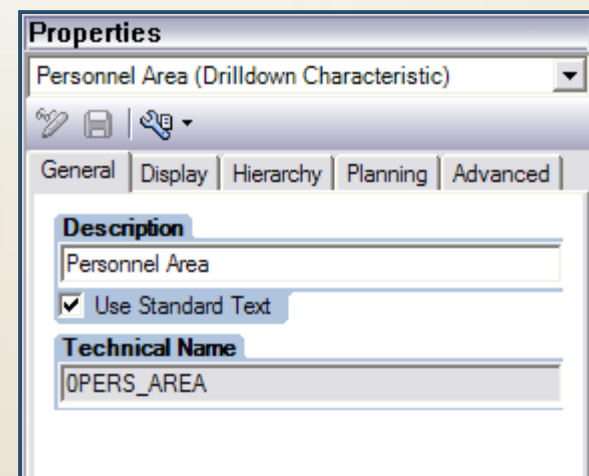
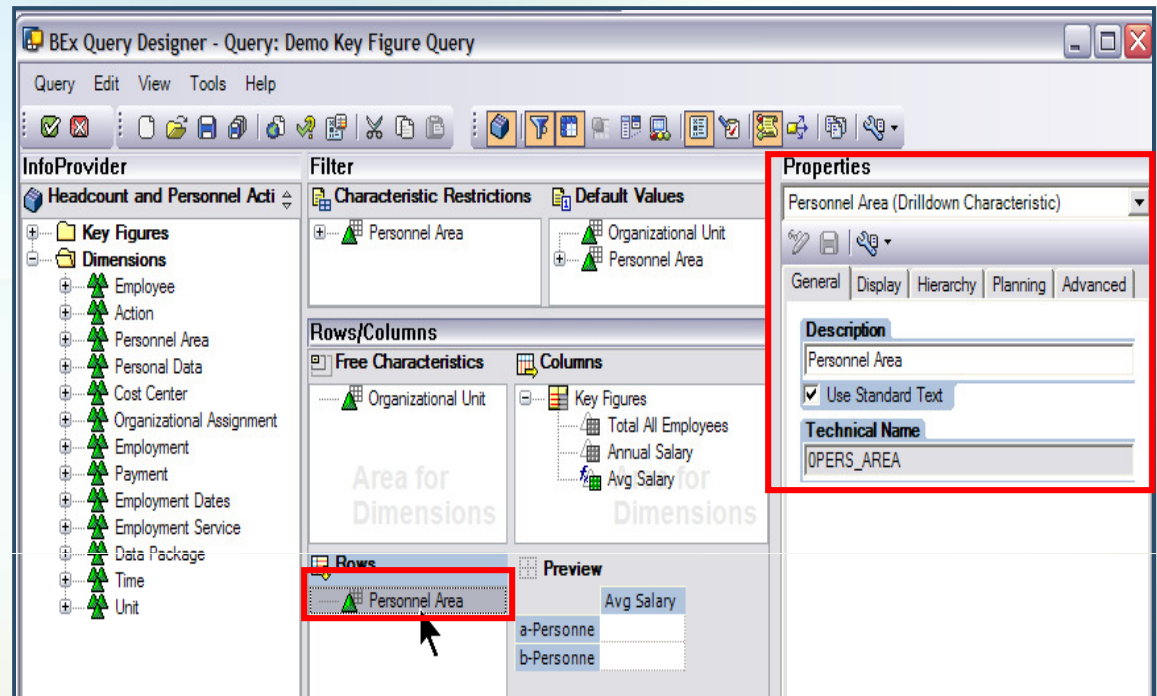
Characteristic Properties format the Characteristics when they are displayed in the ad hoc query results.

The example uses the Headcount and Personnel Actions InfoProvider to show how to access the Properties of the Personnel Area Characteristic in the query.

To access the Characteristic properties:

1. If necessary, Drag&Drop the Personnel Area Characteristic to the Rows section of the query.
2. Select the Personnel Area Characteristic.

Result: The Properties for the Personnel Area are displayed in the Properties pane.



Characteristic Properties, Cont...

The example below provides a brief description of Characteristic Properties:

Properties
Personnel Area (Drilldown Characteristic)

General | Display | Hierarchy

Description
Personnel Area
☒ Use Standard Text

Technical Name
OPERS_AREA

Change/update the Characteristic Description

Properties
Personnel Area (Drilldown Characteristic)

General | Display | Hierarchy

Value Display
Display as
Text
Text View
Standard
☒ Use Characteristic Setting

Determine how or if the Characteristic is displayed

Properties
Personnel Area (Drilldown Characteristic)

General | Display | Hierarchy | Planning | Advanced

Hierarchy
Activate Hierarchy Display
Select
No Hierarchy Characteristic

Hierarchy will be explained in Hierarchy Properties

Properties
Personnel Area (Drilldown Characteristic)

General | Display | Hierarchy | Planning | Advanced

Planning on Hierarchy Nodes
☒ No Budgeting
☐ Bottom-Up Budgeting (Roll Up Value)
☐ Top-Down Budgeting (Posting to Higher-Level Nodes)
☐ Top-Down Budgeting (Posting to Root Node)

Not supported by server

Properties
Personnel Area (Drilldown Characteristic)

General | Display | Hierarchy | Planning | Advanced

Sorting
Sort Characteristic
As in the Query
Sort by
As in the Query
Sort Direction
As in the Query
☐ Use Characteristic Setting

Determine how to sort the Characteristic: Ascending / Descending

Determine how or if the Results Rows are displayed

Properties
Personnel Area (Drilldown Characteristic)

General | Display | Hierarchy | Planning | Advanced

UID
D3BVS6IIXW5MAB61TPN65GHE3

Access Type for Result Values
☒ Posted Values
☐ Characteristic Relationships
☐ Master Data
☒ Use Characteristic Setting

Filter Value Selection During Query Execution
☒ Only Posted Values for Navigation
☐ Only Values in InfoProvider
☐ Values in Master Data Table
☐ Characteristic Relationships
☒ Use Characteristic Setting

Refresh Variables
☒ Refresh Dynamically
☐ Refresh As Designed
☒ Use Characteristic Setting

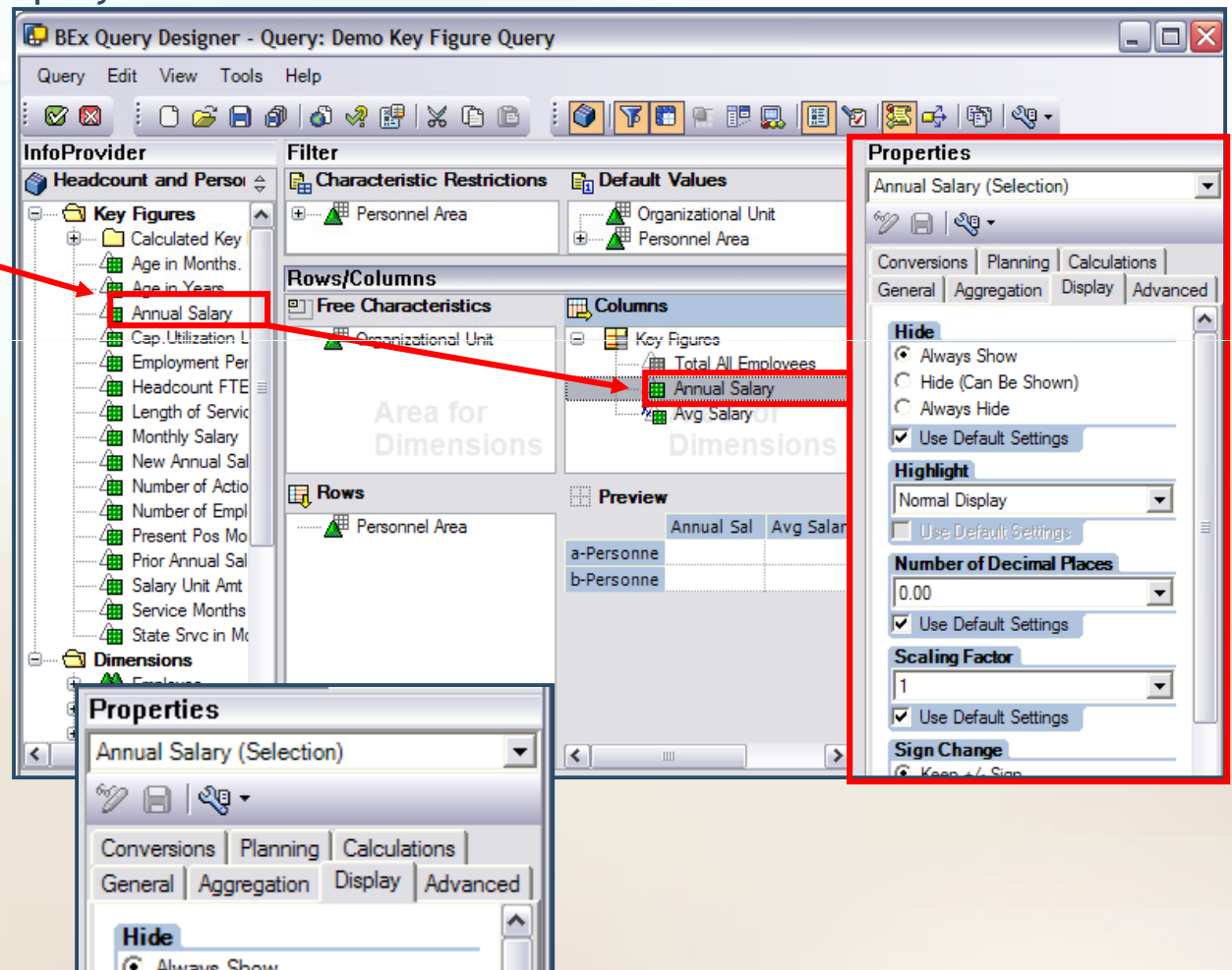
Key Figure Properties

Key Figure Properties are settings that format the Key Figure values when they are displayed in the ad hoc query results.

The example uses the Headcount and Personnel Actions InfoProvider to show how to access the Properties of the Annual Salary Key Figure in the query.

To access the Key Figures Properties:

1. If necessary, Drag&Drop the Annual Salary Key Figure to the column section of the query.
2. Select the Annual Salary Key Figure.



Result: The Properties for the Selection/Formula for Annual Salary are displayed in the Properties pane.

Key Figure Properties, Cont...

The example below provides a brief description of Key Figure Properties:

The image displays six screenshots of the SAP Key Figure Properties dialog box, illustrating various configuration options. Red boxes highlight specific areas of interest:

- General Tab:** Shows the 'Update description name' field and the 'Description' section with 'Annual Salary' selected.
- Aggregation Tab:** Shows the 'Key Figure Aggregation' section with 'Use Standard Aggregation' selected.
- Display Tab:** Shows the 'Determine how the Key Figure will be displayed' section with 'Always Show' selected under 'Hide' and 'Normal Display' selected under 'Highlight'.
- Advanced Tab:** Shows the 'Annual Salary (Selection)' section with 'Constant Selection' checked.
- Conversions Tab:** Shows the 'Converts to a different currency.' section with 'Cannot Determine Default Value' selected under 'Conversion Type'.
- Calculations Tab:** Shows the 'Determine how the Key Figure will be calculated' section with 'Local Calculations' selected.

A small inset window shows the 'Local Calculations' list, which includes options like 'Calculate Results As...', 'Minimum', 'Maximum', 'Total', 'Summation of Rounded Values', 'Counter for All Detailed Values', 'Counter for All Detailed Values That A', 'First Value', and 'Calculation Direction'.

Variables prompt the user to enter selection criteria values prior to running the ad hoc query. For example, a Variable might be a Personnel Area, Employee Number or Date.

Variables can be selected from the “Characteristic Value Variables” section of the Characteristics.

The screenshot shows the BEx Query Designer window titled "Query: Demo Key Figure Query". The interface includes a menu bar (Query, Edit, View, Tools, Help), a toolbar, and several panes:

- InfoProvider:** A tree view on the left showing the hierarchy of data sources. Under "Key Figures" > "Dimensions", the "Personnel Area" folder is expanded, and its sub-items are highlighted with a red box: "Characteristic value variables", "Personnel Area (Optional)", "Personnel Area - Select (Mandatory)", "Personnel Area - Select (Optional)", and "Personnel Area - Select (Optional)".
- Filter:** A pane on the right showing "Characteristic Restricti" and "Default Values". The "Personnel Area - Select" variable is highlighted with a red box in the "Default Values" section.
- Rows/Columns:** A pane on the right showing "Free Characteristics" and "Columns". The "Organizational Unit" variable is highlighted in the "Free Characteristics" section.
- Preview:** A small table at the bottom right showing the query results for "Annual Sal" and "Avg Sal".

Annotations on the left side of the screenshot:

- A dashed box around the "Personnel Area" folder in the InfoProvider tree is labeled "List of Variables to choose from".
- A callout box points to the "Characteristic value variables" folder with the text "Indicates a Variable".
- A callout box points to the "Personnel Area - Select" variable with the text "Indicates a Variable has been added to a Characteristic".

A callout box on the right side of the screenshot points to the "Personnel Area - Select" variable with the text "Variable has been added. Prompts user for a value prior to running query".



Variables can be created by BW/BI Production Support Staff only. Variables have been created for BW/BI by the BW/BI Production Support Staff and are available to the BW/BI Power Users for ad hoc queries.

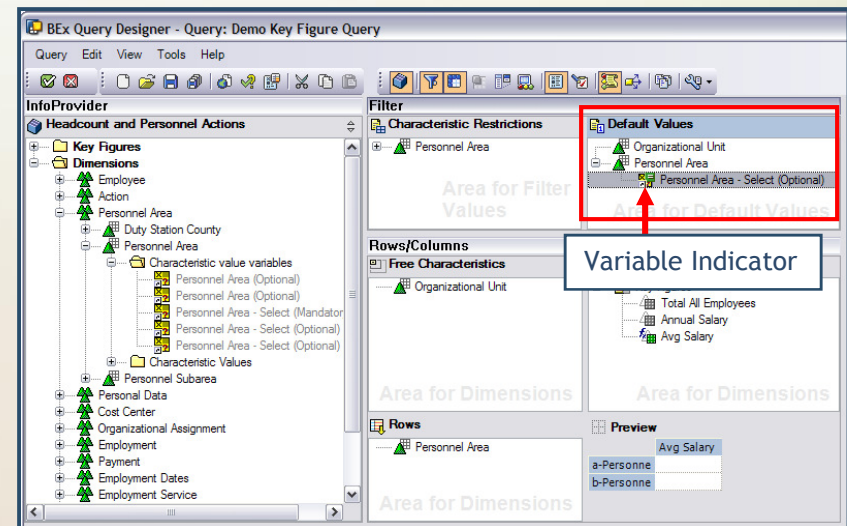
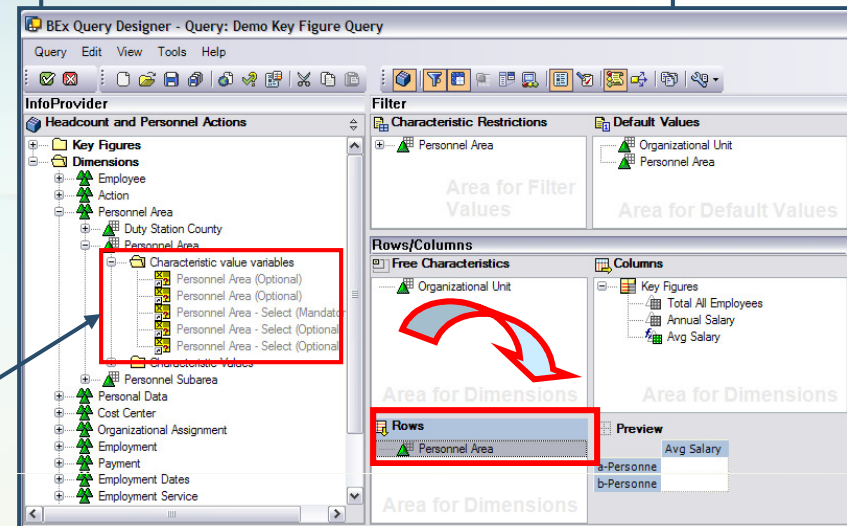
Continued...

Variables, Cont...

The example below uses the Headcount and Personnel Action InfoProvider to show how to add a Variable to the Personnel Area Characteristic. The Variable will prompt the user to enter a Personnel Area prior to running the query.

To add a Variable to an ad hoc query:

1. Drag&Drop the Personnel Area Characteristic to the Rows section of the ad hoc query.
2. Expand the Personnel Area Characteristic in the InfoProvider Field List.
3. Expand the Characteristic Value Variables for the Personnel Area Characteristic in the InfoProvider Field List.
4. Drag&Drop the Personnel Area (Optional) Variable located under the Characteristic Value Variables of the Characteristic on top of the Personnel Area Characteristic in the "Default Values" section of the query.



Continued...

Result: When the ad hoc query is executed, the user will be prompted to enter a Personnel Area.

Variable Entry

Available Variables: Save Save As... Delete [Show Variable Personalization](#)

| General Variables | | |
|------------------------------------|----------------------|-------------|
| Variable | Current Selection | Description |
| Personnel Area - Select (Optional) | <input type="text"/> | |

OK Check